

Variable	Mean	Standard deviation	Minimum	Maximum	Skewness	Kurtosis	Jarque-Bera	Probability
lnGDP	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP2	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP3	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP4	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP5	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP6	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP7	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP8	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP9	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP10	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP11	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP12	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP13	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP14	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP15	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP16	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP17	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP18	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP19	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP20	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP21	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP22	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP23	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP24	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP25	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP26	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP27	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP28	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP29	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP30	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP31	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP32	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP33	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP34	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP35	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP36	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP37	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP38	10.12	0.15	9.85	10.35	-0.12	3.15	0.0000	0.9999
lnGDP39	10.12	0.15	9.85	10.35	-0.1			

PHIL TRIGIANI

Filed: March 12, 2001 Previous Examiner: J. Jacyna

$\star \quad \star \quad \star \quad \star \quad \star \quad \star \quad \star \quad \star$

**PRELIMINARY AMENDMENT**

Sir:

IN THE SPECIFICATION:

On page 1, after the Title, delete:

"This application is a continuation-in-part of U.S. Patent Application 09/535,368, filed March 24, 2000, now pending, the entire contents of which are hereby incorporated by reference and relied upon."

**TRIGIANI--CONTINUATION OF U.S. PATENT APPLICATION 09/557,831**

and replace with:

--This application is a continuation of U.S. Patent Application 09/557,831, filed April 26, 2000, now pending, which is a continuation-in-part of U.S. Patent Application 09/535,368, filed March 24, 2000, now U.S. Patent 6,186,197, the entire contents of which are hereby incorporated by reference and relied upon.--

**IN THE CLAIMS:**

Kindly cancel claims 1-12.

Kindly add new claims 13-17, as follows:

--13. A canister for charging a closed, pressurized air conditioning or refrigeration system with a fluid, comprising:

a) a closed, non-pressurized cylindrical canister, wherein said canister has two ends, a first open end which connects to the system being charged and a second open end, and

wherein said first open end comprises a nozzle;

b) a predetermined amount of said fluid,

wherein said fluid is selected from the group consisting of a lubricant, a fluid dye for said air conditioning or refrigeration systems, and combinations thereof, and

wherein said fluid is maintained in said canister at about ambient pressure; and

c) a piston sealably disposed with said second open end of said canister,

wherein said canister is adapted to sealably and releasably connect to said pressurized air conditioning or refrigeration system via fluidly coupling means to form a closed binary system,

wherein said fluidly coupling means is a connector assembly having a first end connected to said nozzle of said canister and a second end connected to a service valve of the pressurized system,

wherein said connector assembly comprises:

- i) a flexible conduit,
  - ii) a thread on a first end of said flexible conduit, to engage with said nozzle of said canister,
- and

iii) a release valve on a second end of said flexible conduit, to engage with the service valve of the pressurized system, and

wherein said connector assembly further comprises a valve at one end of said flexible conduit, which prevents any material from back flushing into and contaminating said fluid in said canister.

14. The canister of claim 13, wherein said canister is fabricated out of transparent material and includes a plurality of gradient markings; and

wherein said nozzle is threaded.

15. The canister of claim 14, wherein said first open end comprises a threaded cap for engagement with said threaded nozzle.

16. The canister of claim 13, wherein said piston further comprises an O-ring.

17. The canister of claim 13, wherein said piston further comprises a recessed double O-ring.--

**REMARKS**

By this Preliminary Amendment, the specification has been amended, claims 1-12 have been canceled, and new claims 13-17 have been added.

More specifically, the specification has been updated to show the prosecution history of the parent patent applications. A replacement page with the replacement paragraph is attached hereto.

Claims 1-12 have been canceled and replaced with new claims 13-17. The new claims correspond to issued claims 1-5 in parent U.S. Patent 6,186,197. The expression "wherein said fluid is selected from the group consisting of a lubricant, a fluid dye for said air conditioning or refrigeration systems, and combinations thereof" has been added to new claim 1 (step b). Specific support for this amendment can be found, for example, on page 3, lines 19-20. A clean copy of the new claims is included in the attached Appendix. Thus, no new matter has been added by these amendments.


Early and favorable action on the merits are respectfully requested.

TRIGIANI--CONTINUATION OF U.S. PATENT APPLICATION 09/557,831

Should any matters remain in this application which might be resolved by interview, the Examiners is requested to telephone the undersigned at 570-386-5744.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

By:   
Dante J. Picciano  
Reg. No. 33,543

BELL, BOYD & LLOYD LLC  
P.O. Box 1135  
Chicago, IL 60690-1135

# APPARATUS FOR DETECTING LEAKS IN A PRESSURIZED AIR CONDITIONING OR REFRIGERATION SYSTEM

This application is a continuation of U.S. Patent Application 09,557,831, filed April 26, 2000, now pending, which is a continuation-in-part of U.S. Patent Application 09/535,368, filed March 24, 2000, now U.S. Patent 6,186,197, the entire contents of which are hereby incorporated by reference and relied upon.

## BACKGROUND OF THE INVENTION

### Field of the Invention

The instant invention relates generally to the field of pressurized fluid systems and more specifically it relates to an apparatus for detecting leaks in a pressurized air conditioning or refrigeration system. The purpose of the apparatus is to provide the technician with a simple method of injecting a predetermined amount of a secondary fluid, e.g., a fluorescent dye, and/or lubricant into a pressurized system.

### Description of the Prior Art

Numerous pressurized fluid systems have been provided in the prior art that are adapted to operate optimally within a certain pressure range. If the internal pressure falls below this range, the system needs to be recharged with an appropriate lubricant. While these units may be suitable for the particular purpose to which they address, they would not be as suitable for the purposes of the present invention as heretofore described.

## APPENDIX

13. A canister for charging a closed, pressurized air conditioning or refrigeration system with a fluid, comprising:

a) a closed, non-pressurized cylindrical canister,

wherein said canister has two ends, a first open end which connects to the system being charged and a second open end, and

wherein said first open end comprises a nozzle;

b) a predetermined amount of said fluid,

wherein said fluid is selected from the group consisting of a lubricant, a fluid dye for said air conditioning or refrigeration systems, and combinations thereof, and

wherein said fluid is maintained in said canister at about ambient pressure; and

c) a piston sealably disposed with said second open end of said canister,

wherein said canister is adapted to sealably and releasably connect to said pressurized air conditioning or refrigeration system via fluidly coupling means to form a closed binary system,

wherein said fluidly coupling means is a connector assembly having a first end connected to said nozzle of said



canister and a second end connected to a service valve of the pressurized system,

wherein said connector assembly comprises:

- i) a flexible conduit,
- ii) a thread on a first end of said flexible conduit, to engage with said nozzle of said canister, and

- iii) a release valve on a second end of said flexible conduit, to engage with the service valve of the pressurized system, and

wherein said connector assembly further comprises a valve at one end of said flexible conduit, which prevents any material from back flushing into and contaminating said fluid in said canister.

14. The canister of claim 13, wherein said canister is fabricated out of transparent material and includes a plurality of gradient markings; and

wherein said nozzle is threaded.

15. The canister of claim 14, wherein said first open end comprises a threaded cap for engagement with said threaded nozzle.

16. The canister of claim 13, wherein said piston further comprises an O-ring.

17. The canister of claim 13, wherein said piston further comprises a recessed double O-ring.